

1. Without consulting your notes, attempt to name the following polyatomic ions. Once finished, check your notes and see how you did.

a. NO_3^{-1}	f. PO_4^{-3}	k. SO_3^{-2}	p. OH^{-1}
b. CO_3^{-2}	g. IO_3^{-1}	l. NO_2^{-1}	q. $\text{C}_2\text{H}_3\text{O}_2^{-1}$
c. ClO_3^{-1}	h. IO_2^{-1}	m. PO_3^{-3}	r. MnO_4^{-1}
d. SO_4^{-2}	i. IO^{-1}	n. NH_4^{+1}	s. $\text{Cr}_2\text{O}_7^{-2}$
e. BrO_3^{-1}	j. IO_4^{-1}	o. HCO_3^{-1}	t. $\text{S}_2\text{O}_3^{-2}$

2. OK, this time I will give you the name. You will have to write down the ion along with its charge.

a. Carbonate	h. Nitrate	o. Dichromate
b. Sulfate	i. Nitrite	p. Thiosulfate
c. Hydrogen sulfate	j. Phosphite	q. Thiosulfite
d. Hydrogen carbonate	k. Phosphate	r. Permanganate
e. Hydroxide	l. Iodate	s. Acetate
f. Chlorate	m. Periodate	t. Hypofluorite
g. Chlorite	n. Chromate	u. Sulfite

3. The rules that you were given to name *ionic compounds* apply in the same fashion when naming substances containing polyatomic ions. In this first exercise, you will be asked to give the name of the substance. You may consult your notes as you go along.

a. K_2CO_3	k. $\text{Ca}(\text{MnO}_4)_2$	u. Na_2CO_3
b. $\text{Ca}(\text{ClO}_4)_2$	l. CaBr_2	v. CaSO_4
c. $\text{Al}_2(\text{SO}_4)_3$	m. $\text{Sn}(\text{SO}_4)_2$	w. Na_3PO_3
d. ZnCrO_4	n. CaSO_3	x. MgF_2
e. $\text{Fe}(\text{NO}_3)_3$	o. NaClO_3	y. KIO_3
f. $(\text{NH}_4)_3\text{PO}_4$	p. Li_3PO_4	z. PbSO_4
g. K_2SO_4	q. SnSO_4	
h. $\text{Ca}(\text{NO}_3)_2$	r. PbCr_2O_7	
i. AlNO_3	s. KHSO_4	
j. $\text{Cu}(\text{IO}_3)_2$	t. NaHCO_3	

4. Now.... write the correct formula!

a. Manganese(II) oxide	k. Magnesium hydroxide
b. Manganese(II) hydroxide	l. Magnesium permanganate
c. Copper(I) chlorate	m. Silver acetate
d. Sodium phosphite	n. Cobaltous thiosulfite
e. Ferrous nitrate	o. Plumbic perchlorate
f. Mercury(I) hydrogen carbonate	p. Zinc carbonate
g. Sulfur trioxide	q. Ammonium nitrate
h. Potassium phosphite	r. Ammonium chloride
i. Sodium acetate	s. Lead (II) sulfate
j. Tin(IV) sulfite	t. Potassium perfluorate

5. A hodge-podge of everything....

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|--------------------------------|---|
| a. Antimony(V) phosphate | aa. Li_2SO_4 |
| b. Tin(IV) bromide | bb. CoPO_4 |
| c. Sodium hypoiodite | cc. KNO_2 |
| d. Barium hydroxide | dd. $\text{Cu}(\text{ClO}_3)_2$ |
| e. Zinc permanganate | ee. MnCl_2 |
| f. Magnesium carbonate | ff. K_2HPO_4 |
| g. Lead(IV) hydrogen phosphite | gg. CS_2 |
| h. FeHPO_4 | hh. KIO_3 |
| i. Aluminum nitrate | ii. $\text{Zn}(\text{HSO}_3)_2$ |
| j. Aluminum nitride | jj. $\text{Ca}(\text{NO}_2)_2$ |
| k. Aluminum nitrite | kk. $\text{Al}(\text{MnO}_4)_3$ |
| l. Ammonia | ll. $\text{Pb}_3(\text{PO}_4)_2$ |
| m. Ammonium bromide | mm. AlBr_3 |
| n. Ammonium phosphate | nn. NO_2 |
| o. Phosphorus trifluoride | oo. $\text{Mg}(\text{C}_2\text{H}_3\text{O}_2)_2$ |
| p. Iron(III) bromate | pp. AlPO_4 |
| q. Cuprous nitride | qq. AlPO_3 |
| r. Cuprous nitrate | rr. CO_2 |
| s. Gold(III) oxide | ss. $\text{Mg}(\text{BrO})_2$ |
| t. Calcium carbonate | tt. $\text{Fe}_2(\text{SO}_4)_3$ |
| u. Iron(III) thiosulfate | uu. NaCl |
| v. Iron(III) thiosulfite | vv. $(\text{NH}_4)_2\text{SO}_4$ |
| w. Iron(III) sulfate | ww. $(\text{NH}_4)_2\text{S}_2\text{O}_3$ |
| x. Mercury(I) permanganate | xx. Lithium phosphide |
| y. Sodium chlorite | yy. Lithium phosphite |
| z. Barium sulfate | zz. Sodium dichromate |